

September 14, 2011

via Email

Mr. Scott Rice  
United States Environmental Protection Agency  
Waste and Chemicals Division  
1060 Chapline Street  
Suite 303  
Wheeling, WV 26003-2995

**KEATING  
ENVIRONMENTAL  
MANAGEMENT, INC.**

835 Springdale Drive  
Suite 200  
Exton, PA 19341

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[keatingenvironmental.com](http://keatingenvironmental.com)

**Re: School District of Philadelphia  
Transformer Compliance Project  
George Washington High School  
Transformer Replacement – Substation No. 1**

Dear Scott:

*I hope that this letter finds you well and enjoying the cooler weather!*

Please accept this letter as *formal* notification regarding the removal of the second of the two PCB Transformers (Allis Chalmers, serial number 3338914) from Substation No. 1 at the George Washington High School. You may recall that our letter of August 27, 2011 discussed the removal of the first of the two PCB transformers from Substation No. 2 at this School.

The transformer was removed on August 25, 2012 without incident. The removal actions were completed in accordance with the contractor provided/School District reviewed Work Plan. The enclosed letter of August 29, 2012 from Keating Environmental to the School District of Philadelphia (1) describes the work that was performed and (2) provides the transportation manifests for the transformer, the PCB oil and debris.

Please contact me if you have any questions regarding the enclosed. With the removal of these transformers, there are no longer PCB transformers at the George Washington High School.

Regards,  
**KEATING ENVIRONMENTAL MANAGEMENT, INC.**

Keith Choper, P.E., LEED-AP

Enclosure: August 29, 2012 Letter from Keating Environmental to the School District of Philadelphia re: PCB Transformer Removal

cc: Ms. Francine Locke  
Mr. Jerry F. Junod  
Project File 5385



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August 29, 2012  
(file: 5385)

Ms. Francine Locke, Director  
Office of Environmental Management and Services  
School District of Philadelphia  
440 North Broad Street, 3<sup>rd</sup> Floor  
Philadelphia, PA 19130

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**RE: PCB Transformer Decommissioning – Substation 1  
George Washington High School  
10175 Bustleton Avenue  
Philadelphia, Pennsylvania**

Dear Francine:

This letter documents the decommissioning and disposal of the final remaining PCB transformer from George Washington High School. The removal of the transformer from Substation 1 completes the replacement of the two PCB transformers at the school. The other PCB transformer was removed from Substation 2 on July 13, 2012. With the completion of the PCB transformer removal from Substation 1, the only near-term required PCB-related activity remaining at the school is the maintenance of the encapsulated area and signage in Substation 2. Management of the encapsulated area is required by the Consent Decree and Cleanup Plan until the affected area is removed. Upon building demolition, other Consent Decree requirements will need to be performed.

### **Background**

George Washington High School has managed two PCB transformers under a Consent Decree with the United States Environmental Protection Agency (USEPA) since March 1997. These transformers were located in separate substations on the ground floor of the facility. Both units were manufactured by Allis Chambers and contained 4,445 pounds (approximately 350 gallons) of Chlorextol dielectric fluid. The individual transformers, identified by serial number and location are summarized below.

PCB Transformer Summary George Washington High School		
Transformer	Serial Number	Location
Transformer 1	3338914	Substation 1
Transformer 2	3338913	Substation 2



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### **Transformer Decommissioning**

The transformer decommissioning was conducted in conjunction with a school renovation project that included the installation of two new, non-PCB transformers. In preparation for the renovation project, a technical specification was prepared by Keating Environmental management, Inc. (KEM) describing the environmental requirements necessary for the removal and disposal of the transformers in accordance with the Consent Decree and applicable state and federal regulations.

The electrical construction contract for the George Washington High School renovation was awarded to C.A.D. Electric, Inc. (C.A.D.) located in Rose Valley, Pennsylvania. The removal and disposal of the PCB transformer equipment and dielectric fluid was subcontracted by C.A.D. to Ferrick Construction Company, Inc. (Ferrick), a Philadelphia-based environmental construction services company. Transportation and disposal services were provided by Clean Harbors Environmental Services (Clean Harbors) of Philadelphia.

In accordance with the technical specification, Ferrick prepared a Work Plan and schedule for the work associated with the removal of the PCB transformers. A project meeting was held to address elements of the Work Plan that did not comply with the requirements of the specification. Following revisions by Ferrick, the Work Plan was accepted by the School District project team. The transformer from Substation 2 was removed on July 13, 2012 as documented in the KEM report dated July 31, 2012.

On August 25, 2012, KEM observed the decommissioning and removal of the PCB transformer from Substation #1. This work was done in conjunction with the installation of a new dry transformer by C.A.D., who de-energized and disconnected the PCB transformer immediately prior to the decommission of the unit by Ferrick. Decommissioning activities completed by Ferrick included transferring the dielectric fluid into 55-gallon drums, removing the fluid and transformer carcass from the substation and transporting the equipment, fluid and associated waste generated from both substations for off-site disposal. The PCB oil was drained from the transformer using a pneumatic diaphragm pump instead of a vacuum truck as described in the Work Plan.

The following activities were completed during the transformer decommissioning:





- The surface of the substation floor, adjacent light well and pavement on grade around the light well were inspected for existing stains. None were identified.
- A floor drain in the light well located beneath a pile of pallets was isolated from the work area using spill booms. No floor drains were identified in the substation.
- Plastic sheeting was used to cover the substation floor around the transformer, the drum staging area in the light well and a paved surface drum staging area outside the light well.
- A steel plate was placed on blocks inside the light well to raise the floor elevation of the light well to that of the substation door threshold. Plastic sheeting was used to cover the steel plate.
- Seven DOT-approved 55-gallon steel drums were staged on plastic in the light well.
- A pneumatic diaphragm pump and hose sections were placed on the plastic sheeting between the transformer and drums in the light well. All connections were made using cam and groove couplings and each connection was secured with duct tape. Spill pads were placed beneath the pump and each hose connection.
- A threaded vent plug was removed from the top of the transformer.
- A coupling adapter was installed on the gate valve transformer drain. Spill pads were placed below the adapter and the drain hose was attached with a cam and groove coupling. A ball valve nozzle was installed on the discharge end of the hose.
- Compressed air was supplied to the pump. One worker operated the gate valve on the transformer drain while a second worker used the discharge nozzle to fill the drums.
- Each drum was filled to approximately 90% of its capacity. A spill pad was used to catch any drips from the nozzle while moving between drums.

- The spill pads beneath the transformer drain, pump and hose connections were continuously monitored for leaks during the PCB oil transfer process.
- Once the transformer was drained, the gate valve was closed and the hose was disconnected. Approximately 4 gallons of diesel fuel were pumped through the system to flush the pump and hoses. The diesel fuel was discharged into a 55-gallon drum. A total of seven drums containing dielectric PCB oil and diesel fuel were generated.
- As the drums were filled, the bung holes of each drum were sealed with threaded plugs.
- Spill pads were used to contain any drips as the hose sections were disconnected and removed from the pump. Caps were used to seal the pump openings. The groove end of each hose section was inserted into the cam end and locked.
- The drums of oil were lifted out of the light well using a crane equipped with a drum clamp. The drums were staged on pavement covered with plastic sheeting adjacent to the light well. Once the Clean Harbors truck arrived, the drums were loaded onto the trailer using the crane. The trailer was equipped with a welded steel pan that provided secondary containment.
- The expansion chamber was removed from the top of the transformer carcass to accommodate the door opening into the light well. It was removed through the light well using the crane and placed on the trailer.
- The plastic sheeting and spill pads were collected and placed into the waste drum.
- The carcass was raised with jacks and tripod casters were placed under each corner.
- The carcass was moved to the doorway leading into the light well. The crane was used to lift the carcass over the threshold and onto the steel plate in the light well. The carcass was hoisted out of the light well and placed onto the flatbed trailer.







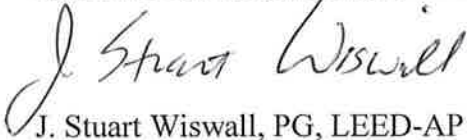
- The substation floor beneath the transformer was broom swept and inspected. The bottom of the transformer carcass was also examined as it was being removed from the light well. No stains or other visual evidence of a dielectric fluid release were observed.
- The transformer carcass, expansion chamber, seven drums of dielectric fluid oil and one drum of waste were labeled as containing PCBs and manifested under a uniform hazardous waste manifest for transport to a Clean Harbors facility in Twinsburg, Ohio. According to the Ferrick Waste Management Plan, the dielectric fluid will be transported to a Clean Harbor incinerator in Deer Park Texas and the carcass will be cleaned and dismantled at a Clean Harbor facility in Coffeyville, Kansas.
- The drums and transformer components were transported from the site on August 25, 2012. A copy of the uniform hazardous waste manifest is attached to this report. The completed manifests showing acceptance by the disposal facilities had not been received at the time this report was prepared and will be forwarded under separate cover upon receipt.
- The substation, light well and outside work areas were surveyed to confirm no new stains were present. The spill booms were removed from the light well.
- Following removal of the PCB transformer, C.A.D. proceeded with the installation of the new transformer.

Ms. Francine Locke  
School District of Philadelphia  
August 29, 2012  
Page 6 of 6

KEM appreciate the opportunity to be of continued service to the School District of Philadelphia. Please contact me if you have any questions or comments.

Regards

**KEATING ENVIRONMENTAL MANAGEMENT, INC.**



J. Stuart Wiswall, PG, LEED-AP  
Senior Project Manager



Attachments: Hazardous Waste Manifest

Cc: Mr. Jerry Junod  
File 5385

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>A B C F R P A R Y 7 6 1</b>		2. Page 1 of <b>1</b>		3. Emergency Response Phone <b>(800) 433-3713</b>		4. Manifest Tracking Number <b>002921917 FLE</b>					
		5. Generator's Name and Mailing Address <b>GENERAL CATALYTIC OF PHILADELPHIA 450 NORTH BROAD STREET PHILADELPHIA, PA 19130 (215) 651-6794</b>						Generator's Site Address (if different than mailing address) <b>GEORGE WASHINGTON HIGH SCHOOL 10175 BUSTLETON AVENUE PHILADELPHIA, PA 19112</b>					
6. Transporter 1 Company Name <b>CLEAN HARBORS ENVIRONMENTAL SERVICES, INC</b>		U.S. EPA ID Number <b>M A D 0 3 9 3 2 2 2 5 0</b>											
7. Transporter 2 Company Name		U.S. EPA ID Number											
8. Designated Facility Name and Site Address <b>CLEAN HARBORS PPM, LLC 1672 EAST HIGHLAND ROAD TWINSBURG, OH. 44087 (330) 425-3825</b>		U.S. EPA ID Number <b>O H D 9 8 6 9 7 9 3 9 9</b>											
Facility's Phone:													
<b>GENERATOR</b>	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes			
						No.	Type						
		1.	UN2315, POLYCHLORINATED BIPHENYLS, LIQUID, 9, PG III				002	CM	4227	K	NONE		
		2.	UN2315, POLYCHLORINATED BIPHENYLS, LIQUID, 9, PG III				007	DM	2141	K	NONE		
		3.	UN2315, POLYCHLORINATED BIPHENYLS, LIQUID, 9, PG III				001	DM	0048	K	NONE		
	4.												
14. Special Handling Instructions and Additional Information <b>1) PPMCHTRN ERG # 171 942 BULK D-7 T-2 2) PPMCH3 3) PPMCHSL 943 D-8 DATE REMOVED FROM SERVICE FOR DISPOSAL: 8-2-5-12</b> <b>MAIL GENERATOR COPY TO: KEATING ENVIRONMENTAL MANAGEMENT, INC 325 SPRINGDALE DRIVE, SUITE 200 EXTON, PA 19341</b>													
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.													
Generator's/Offor's Printed/Typed Name <b>J STUART WISNIAK / DISTRICT 4 PHILADELPHIA</b>								Signature <i>J Stuart Wisniak</i>		Month <b>08</b>	Day <b>25</b>	Year <b>12</b>	
<b>TRANSPORTER</b>	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____												
	17. Transporter Acknowledgment of Receipt of Materials												
	Transporter 1 Printed/Typed Name <b>Mike Caulder</b>								Signature <i>Mike Caulder</i>		Month <b>08</b>	Day <b>25</b>	Year <b>12</b>
	Transporter 2 Printed/Typed Name								Signature		Month	Day	Year
<b>DESIGNATED FACILITY</b>	18. Discrepancy												
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection												
	Manifest Reference Number:												
	18b. Alternate Facility (or Generator)								U.S. EPA ID Number				
	Facility's Phone:												
	18c. Signature of Alternate Facility (or Generator)								Month	Day	Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)													
1.			2.			3.			4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a													
Printed/Typed Name								Signature		Month	Day	Year	



<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number 49CFRPA1761	2. Page 1 of 1	3. Emergency Response Phone (800) 433 3713	4. Manifest Tracking Number 002921917 FLE
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5. Generator's Name and Mailing Address SCHOOL DISTRICT OF PHILADELPHIA 440 NORTH BROAD STREET PHILADELPHIA, PA 19130 (215) 681 6708	Generator's Site Address (if different than mailing address) GERARD J. BUSTLETON HIGH SCHOOL 10175 BUSTLETON AVENUE PHILADELPHIA, PA 19116
--	---

Generator's Phone: \_\_\_\_\_

6. Transporter 1 Company Name CLEAN HARBORS ENVIRONMENTAL SERVICES, INC	U.S. EPA ID Number MAD039322250
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7. Transporter 2 Company Name	U.S. EPA ID Number
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8. Designated Facility Name and Site Address CLEAN HARBORS PFM, LLC 1672 EAST HIGHLAND ROAD TWINSBURG, OH, 44087 (330) 425-3520	U.S. EPA ID Number OH0988978399
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Facility's Phone: \_\_\_\_\_

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
1.	UN-311, POLYCHLORINATED BIPHENYLS, LIQUID, 9, PG III	002	CM	4227	K			
2.	UN-311, POLYCHLORINATED BIPHENYLS, LIQUID, 9, PG III	007	OM	2141	K			
3.	UN-311, POLYCHLORINATED BIPHENYLS, LIQUID, 9, PG III	001	DM	48	K			
4.								

14. Special Handling Instructions and Additional Information  
1) PPMCHTRN ERG 6 171 742 01/10/07  
2) PPMCHTRN 3) PPMCHSL 943 D-8  
DATE REMOVED FROM SERVICE FOR DISPOSAL: 8-25-02

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this assignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this assignment conform to the terms of the attached EPA Acknowledgment of Consent.  
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is as follows:

Generator's/Offoror's Printed/Typed Name STUART WISWILL	Signature [Signature]	Month 08	Day 25	Year 12
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16. International Shipments	<input type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit:
Transporter signature (for exports only): _____			

17. Transporter Acknowledgment of Receipt of Materials				
Transporter 1 Printed/Typed Name Alex Cauldon	Signature [Signature]	Month 08	Day 25	Year 12
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number: \_\_\_\_\_

18b. Alternate Facility (or Generator)	U.S. EPA ID Number
--	--------------------

Facility's Phone: \_\_\_\_\_

18c. Signature of Alternate Facility (or Generator)	Month Day Year
---	----------------

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)			
1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a				
Printed/Typed Name	Signature	Month	Day	Year